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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

BOSWELL, CHRISTOPHER J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,650

Applicant(s)

ATTHAPRASITH, ACHAWAN

Examiner

Christopher Boswell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-35 is/are pending in the application.
- 4a) Of the above claim(s) 27, 29-31 and 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-26, 28 and 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

✓

DETAILED ACTION***Election/Restrictions***

Applicant's election with traverse of species 1, relating to claims 13-26, 28, and 32-34, in the reply filed on December 20, 2004 is acknowledged. The traversal is on the ground(s) that consideration of the various species would not create undue hardship on the Examiner. This is not found persuasive because: The various species are found to be mutually exclusive, in that the different species of the locking mechanisms have varying means of driving the locking member. Wherein, the general test as to when claims are restricted, respectively, to different species is the fact that one claim recites limitations which under the disclosure are found in a first species but not in a second, while a second claim recites limitations disclosed only for the second species and not the first, as found in the MPEP §806.04 (f).

The requirement is still deemed proper and is therefore made FINAL.

Claims 27, 29-31, and 35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on December 20, 2004.

Claim Objections

Claims 24 and 26 are objected to because of the following informalities: claims 24 and 26 have grammatical ambiguities and render the limitations as unclear. Within the

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aforementioned claims there are limitations followed by parenthetical elements, and without these parenthetical elements the militias are rendered vague as to which elements they are referring, for example in claim 24, lines 11-12 there are the limitations the hole (42a) and hole (42b), with out the parenthetical elements it is unclear as to which hole these limitations refer. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 21- 26, 28, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitations "the motor" in lines 3-4, "the anti-theft system" in line 4, "the locking device" in lines 4-5, and "the locking mechanism" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "the cavity" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "said device" in line 3, "the cylinder covering steering wheel shaft" in line 5, "the brake system attachment base" in line 7, and "the automobile body" in line 7. There is insufficient antecedent basis for this limitation in the claim.

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Claim 23 recites the limitation "the moving axle" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "the metal cylinder" in line 4, "the end" in line 7, "the hole" in line 11, "the threaded hole" in lines 12-13, "the hole" in line 15, and "the hole" in line 16. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the brake attachment base" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "the rotation shaft" in line 10, "the helical gear" in lines 13-14, "the shaft" in line 21, "the hole" in line 25, "the shaft attachment plate" in line 25, and "the shaft attachment plate" in line 26, and "the motor attachment plate" in lines 29-30. There is insufficient antecedent basis for this limitation in the claim.

Claim 28 recites the limitation "the groove" in line 6, "the cam set" in line 6, "the hole" in line 13, and "the master lock base" in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 recites the limitation "the cavity" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-22 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 4,881,148 to Lambropoulos et al.

Lambropoulos et al. disclose a locking device for electrically locking an automobile, having an electrical system for controlling the operation of the motor and the anti-theft system working together with the locking device comprising an electrical device (A) for encoding and transmitting coded signals for instructing the locking mechanism of the locking device to engage or disengage the lock (column 9, lines 25-27), a locking electrical circuit (R) for comparing the coded signals received from an encoding device or circuit in order to determine whether they match a predetermined code, if the coded signals match then a processing is carried out to transmit an output signal to control the operation of the anti-theft system which is working together with the locking device and send a control signal to drive the motor to rotate and force the locking mechanism to operate and move the locking member to lock the automobile (column 10, lines 35-55; column 11, lines 62-66) as well as monitoring the rotation position of the motor to determine whether the position is in a locked or unlocked state (column 9, lines 28-37), a resetting electrical device (812) for resetting and canceling the operation of the anti-theft system working together with the locking device (column 21, lines 42-44), a motor (B, C, D) for use as a power source to force the locking mechanism to operate and move the locking member to engage or disengage the lock, a locking mechanism (B, C, D) provided for moving the locking member to lock the automobile in order to disable their normal operations or for moving the locking member to unlock the automobile in order to enable their

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normal operations, a master lock (exterior automobile locks) provided in order to use a key to unlock in case any part of the electrical system or motor does not function, as in claim 13.

Lambropoulos et al. also disclose the electrical device used for encoding or transmitting coded signals for instructing the locking device has an encoding device provided for encoding and then transmitting coded signals to the locking electrical circuit (column 9, lines 25-27), as in claim 15, and where the locking electrical circuit will monitor the rotation position of the motor whether the position is in a locked or unlocked state by receiving a signal from a sensor when such sensor senses the position of locking or unlocking of the locking mechanism (column 9, lines 28-37), as in claim 14.

Lambropoulos et al. further disclose the locking electrical circuit (45) having a decoder (100), control circuit (80), and driver circuit (120), including an integrated circuit (figure 1), as in claim 16, wherein the locking electrical circuit has a wired connection between the circuit to the motor encased to prevent damages or modifications of the connection of the circuit (figure 1), as in claim 32, as well as the locking electrical circuit receiving instruction signals from the encoding electrical device by transmitting signals to each other by using a wireless system (figure 1), as in claim 33, and where the locking electrical circuit is encased as a separate component, and then welded to the metal cylinder (column 3, lines 55-59), as in claim 34.

Lambropoulos et al. additionally disclose the resetting electrical device comprises a resetting encoding device and a resetting decoder (812), and an anti-theft system cancellation circuit (figure 5A) separately provided as another set for resetting and canceling the operation of the anti-theft system working together with the locking device, as in claim 17, where the resetting decoder receives resetting signals from the resetting encoding device by transmitting

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signals to each other through a signal wire (figure 13), as in claim 20, as well as the locking electrical circuit having a wired connection between the circuit to the motor encased to prevent damages or modifications of the connection of the circuit (figure 1), as in claim 18, as well as the locking electrical circuit receiving instruction signals from the encoding electrical device by transmitting signals to each other by using a wireless system (figure 1), as in claim 19, where the locking electrical circuit is encased as a separate component, and then welded to the metal cylinder (column 3, lines 55-59), as in claim 21, as well as the locking device being permanently installed inside an automobile using a locking device attachment member (column 3, lines 55-59), such attachment installation is achieved by attaching the locking device to the automobile body, as in claim 22, wherein the locking mechanism, motor, and locking electrical circuit, are encased within the automobile (column 3, lines 55-59) to prevent damages to the motor, locking mechanism, and the electrical circuit, such encasing allows some parts of the locking member to protrude out of the metal cylinder so as to unlock the vehicle, as in claim 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambropoulos et al., as applied above to claims 13-22, in view of U.S. Patent Number 6,662,894 to Chantrasuwan et al.

Lambropoulos et al. disclose the invention substantially as claimed. However, Lambropoulos et al. do not disclose how and where the locking device attachment member is attached to the automobile (column 3, lines 55-59). Chantrasuwan et al. teach of a locking device attachment member having an attachment leg (2) with one end welded to the metal cylinder (30) and the other end (22) designed with a curve to fit with the cylinder covering the steering wheel shaft (figure 1) and curved to receive the end (40b) of the attachment member (figures 4A and 4B) which is also curved to fit with the cylinder covering the steering wheel shaft in such a manner that when the attachment leg and the attachment member are installed to the cylinder covering the steering wheel shaft (figure 1), a screw (44) can be inserted through a pair of holes in the attachment member, then inserted into a pair of threaded holes of the attachment leg and then securely tightened (column 4, lines 42-47), allowing a screw cover plate (41) to be assembled to the attachment member by a hole of the screw cover plate aligning with a hole of the attachment member in such a manner that the screw cover plate completely covers the screw head of both screws to prevent use of tools to unscrew and remove the screw cover plate for a purpose of stealing (column 4, lines 46-51), thus allowing a master lock (fastening means securing the cover plate to the attachment member) to pass through a hole of the screw cover plate, a hole of the attachment member, and a hole of the attachment leg respectively in order to engage the master lock (figure 2), as in claim 24, where the attachment leg is welded to the metal cylinder (column 4, lines 31-32) and an end of the attachment leg is designed to fit with a brake

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attachment base in order to attach the locking device to the brake attachment base of the automobile (figure 1), as in claim 25, in the analogous art of automobile locking devices for the purpose of having a locking device for securing the brake and clutch pedals of a vehicle to restrict movement of the pedals to prevent theft of the vehicle (column 1, lines 5-10). It would have been obvious to one with ordinary skill in the art at the time the invention was made to place the locking device of Lambropoulos et al. in a location to secure the brake and clutch pedals of a vehicle to restrict movement of the pedals to prevent theft of the vehicle, as taught by Chantrasuwan et al.

Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambropoulos et al., as applied above to claims 13-22, in view of U.S. Patent Number 5,265,452 to Dawson et al.

Lambropoulos et al. disclose the invention substantially as claimed. However, Lambropoulos et al. do not disclose the mechanical details of the locking mechanism. Dawson et al. teach of a locking mechanism having a master lock (18) for unlocking in case a motor (22) is unable to function, a rack supporting base (figure 2) for assisting while using a key (14) to unlock the master lock, a gear set comprising a gear (68) having a shaft (40) protruding from both sides in such a manner that the shaft is inserted into the rotation shaft (figure 3) of the motor and the shaft is inserted into the hole of the rack supporting base (figure 2), a spur gear (60) having at least one tenon (figure 4) protruding out for inserting into a notch groove (66) of a helical gear (64), a moving axle (12) with one end attached to the rack and the other end attached to the locking member (figure 2), and spring for keeping the helical gear and the spur gear from

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detaching from each other while the motor is rotating and forcing the locking mechanism to move the locking member into locking or unlocking position (column 2, line 58-column 3, line 5), such component being related in such a manner that the helical gear (64), spur gear (60) are mounted on the shaft (figure 4) with the tenon of the spur gear being mounted into the notch groove of the helical gear (figure 4) and then the spring is assembled to the shaft with one end of the shaft inserted into the hole of the shaft attachment plate and the other end inserted into the hole of the shaft attachment plate (figure 2), with both shaft attachment plates functioning to keep the spur gear and helical gear and spring to operate within a predetermined range (figure 2), the motor being attached to the motor attachment plate (figure 2) while the spiral gear is arranged to mesh with the worm gear and spur gear arranged to mesh with the rack (figure 4), the rack being supported by a rack supporting base and collet (figure 2) for preventing vibration, shaking, or misalignment while the motor is rotating to force the spur gear to drive the rack to move the moving axle and locking member into a locking or unlocking position (column 2, line 58-column 3, line 5), as in claim 26, where the master lock (18) is provided with a shaft (74) protruding out and engaging with the groove (75) of the cam set (figures 3 and 6) to help facilitate the use of the key (14) to unlock the master lock by making the cam set (figure 3) push the helical gear (64) until the tenon (20a) of the spur gear (60) disengages from the notch groove (66) of the helical gear to thereby enable movement of the locking member (12) to an unlocked position, in such a manner that the body of the master lock is arranged for insertion into the hole of the master lock base (20) used to cover one end of the metal cylinder (figure 1) in order to prevent damages to the locking mechanism, as in claim 28, in the analogous art of electrically controlled locking assemblies for the purpose of permitting the movement of the key of a lock to perform some

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function not related to withdraw of the lock bolt and to use the key movement to withdraw the lock bolt at a separate stage of the lock operation (column 1, lines 55-59). It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the mechanical locking structure of Dawson et al. as the locking mechanism of Lambropoulos et al. in order to permit the movement of the key to perform some function not related to withdraw of the lock bolt and to use the key movement to withdraw the lock bolt at a separate stage of the lock operation.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to electronically controlled locking assemblies:

U.S. Patent Number 6,758,071 to Reeb et al., U.S. Patent Number 6,499,324 to Reeb et al., U.S. Patent Number 6,390,222 to Cornelius, U.S. Patent Number 6,062,612 to Lin, U.S. Patent Number 6,040,638 to Howell, U.S. Patent Number 5,842,364 to Oliver, U.S. Patent Number 5,586,457 to Keener, U.S. Patent Number 5,412,963 to Carlo et al., U.S. Patent Number 3,791,181 to Fouces et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Boswell whose telephone number is (571) 272-7087. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



CJB CB
March 18, 2005

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600